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**Montana Department of  
ENVIRONMENTAL QUALITY****LEGISLATIVE ENVIRONMENTAL  
POLICY OFFICE**  
Steve Bullock, Governor  
Tracy Stone-Manning, DirectorP. O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • Website: [www.deq.mt.gov](http://www.deq.mt.gov)

July 24, 2014

**FINAL FINDING OF NO SIGNIFICANT IMPACT****TO ALL INTERESTED GOVERNMENTAL AGENCIES AND PUBLIC GROUPS**

As required by state and federal rules for determining whether an Environmental Impact Statement is necessary, an environmental review has been performed on the proposed action below:

Project	Culbertson Treatment System Improvements Phase 2
Location	Culbertson, Montana
Project Number	WPCSRF Project # C301268
Total Cost	\$5,023,000

The Town of Culbertson, through a November 2011 Preliminary Engineering Report (PER) and a May 2014 PER Addendum for Treatment Alternatives, prepared by WWC Engineering, has identified the need to upgrade their wastewater treatment system. The original facultative lagoon treatment system was constructed in 1957 and included two primary cells. It has been upgraded several times, which included a third cell, constructed in 1977, and an additional evaporative / infiltration cell constructed in 1987, for use during the summer months. Sludge was measured in the two primary cells in 2009 and was found to be greater than two feet deep and therefore sludge is occupying a portion of the wastewater treatment capacity of the cells. Discharge to the infiltration cell has only occurred twice in the last 10 years. Because the other cells do not directly discharge, it is believed that approximately 6.9 million gallons (or 28% of total wastewater flow) of wastewater leaks from the existing treatment system every year, potentially leaking untreated wastewater to groundwater. A discharge to groundwater by the town's leaking lagoons is in violation of the Montana Water Quality Act because the town is not authorized to discharge to groundwater under a Montana Groundwater Pollution Control System (MGWPCS) permit.

The wastewater system upgrade is due to the above noted items and the influx of people from the oil exploration and production in the area, which is placing an immediate demand on the town's wastewater system. The 2011 PER indicated that improvements to the entire wastewater system were needed immediately, but the improvements were split into two phases to allow time for the town to obtain a wastewater discharge permit from the State of Montana Department of Environmental Quality (MDEQ). The surface water discharge permit was issued by the MDEQ on April 24, 2014. The Phase 1 improvements were completed in the fall of 2013 to the collection system and main lift station, as well as modifications to the existing infiltration cell.

The proposed Phase 2 wastewater treatment system improvements will consist of constructing a three-celled aerated cell system and new outfall pipe to the Missouri River. After the new treatment system is operational, sludge in the existing cells will be dried and hauled to local agriculture land and the existing cells will be abandoned. The proposed Phase 2 treatment

system improvements are expected to be complete by the fall of 2015. However, the sludge disposal and abandonment of the existing lagoons may occur in the summer of 2016.

The proposed Phase 2 treatment system improvements, including administration, engineering, and construction, are estimated to cost approximately \$5,023,000 and will be funded using grants and a low interest loan from US Department of Agriculture Rural Development (RD) program. Grants from RD are expected to be approximately \$1,009,000 and the long-term loan (40 years), is expected to be approximately \$3,993,000. The RD program requires interim financing until construction is complete. Therefore, for the short term (up to 3 years), the town will borrow up to \$3,993,000 at 1.25 % interest from the Water Pollution Control State Revolving Fund (WPCSRF) loan program in order to fund the project during construction. The town also expects to pay approximately \$21,000 in direct costs for the project.

Federal and State grant/loan programs will fund the project. Environmentally sensitive characteristics such as wetlands, floodplains, historical sites, and threatened or endangered species are not expected to be adversely impacted as a result of the proposed project. No significant long-term environmental impacts were identified, but a Section 404 permit will be required from the Corp of Engineers for construction of the outfall pipe which will occur at the Missouri River.

The U.S. Department of Agriculture Rural Development has also reviewed this EA for purposes of NEPA compliance.

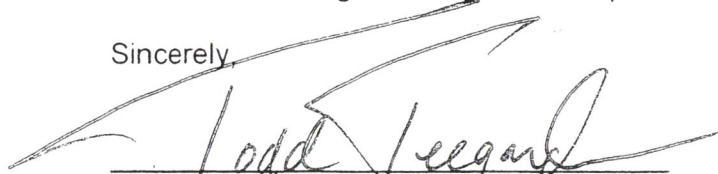
An environmental assessment (EA), which describes the project and analyzes the impacts in more detail, is available for public scrutiny on the DEQ web site (<http://www.deq.mt.gov/ea.mcp>) and at the following locations:

Jerry Paddock, P.E.  
Department of Environmental Quality  
1520 East Sixth Avenue  
P.O. Box 200901  
Helena, MT 59620-09011  
[jpaddock@mt.gov](mailto:jpaddock@mt.gov)

Gordon Oelkers, Mayor  
Town of Culbertson  
210 Broadway  
Culbertson, MT 59218

Comments on the EA may be submitted to the Department of Environmental Quality at the above address. After evaluating substantive comments received, the department will revise the environmental assessment or determine if an environmental impact statement is necessary. If no substantive comments are received during the comment period, or if substantive comments are received and evaluated and the environmental impacts are still determined to be non-significant, the agency will make a final decision. No administrative action will be taken on the project for at least 30 calendar days after release of the Finding of No Significant Impact.

Sincerely,



Todd Teegarden, Bureau Chief  
Technical and Financial Assistance Bureau



TOWN OF CULBERTSON  
PHASE 2  
WASTEWATER TREATMENT SYSTEM IMPROVEMENTS

**ENVIRONMENTAL ASSESSMENT**

**I. COVER SHEET**

**A. PROJECT IDENTIFICATION**

Applicant: Town of Culbertson

Address: 210 Broadway Avenue/PO Box 351  
Culbertson, MT 59218

Project Number: SRF Project # C301268

**B. CONTACT PERSON**

Name: Gorden Oelkers, Mayor

Address: 210 Broadway Avenue/PO Box 351  
Culbertson, MT 59218

Telephone: (406) 787-5271

**C. ABSTRACT**

The Town of Culbertson, through a November 2011 Preliminary Engineering Report (PER) and a May 2014 PER Addendum for Treatment Alternatives, prepared by WWC Engineering, has identified the need to upgrade their wastewater treatment system. The original facultative lagoon treatment system was constructed in 1957 and included two primary cells. It has been upgraded several times, which included a third cell, constructed in 1977, and an additional evaporative / infiltration cell constructed in 1987, for use during the summer months. Sludge was measured in the two primary cells in 2009 and was found to be greater than two feet deep and therefore sludge is occupying a portion of the wastewater treatment capacity of the cells. Discharge to the infiltration cell has only occurred twice in the last 10 years. Because the other cells do not directly discharge, it is believed that approximately 6.9 million gallons (or 28% of total wastewater flow) of wastewater leaks from the existing treatment system every year, potentially leaking untreated wastewater to groundwater. A discharge to groundwater by the town's leaking lagoons is in violation of the Montana Water Quality Act because the town is not authorized to discharge to groundwater under a Montana Groundwater Pollution Control System (MGWPCS) permit.

The wastewater system upgrade is due to the above noted items and the influx of people from the oil exploration and production in the area, which is placing an immediate demand on the town's wastewater system. The 2011 PER indicated that improvements to the entire wastewater system were needed immediately,

but the improvements were split into two phases to allow time for the town to obtain a wastewater discharge permit from the State of Montana Department of Environmental Quality (MDEQ). The surface water discharge permit was issued by the MDEQ on April 24, 2014. The Phase 1 improvements were completed in the fall of 2013 to the collection system and main lift station, as well as modifications to the existing infiltration cell.

The proposed Phase 2 wastewater treatment system improvements will consist of constructing a three-celled aerated cell system and new outfall pipe to the Missouri River. After the new treatment system is operational, sludge in the existing cells will be dried and hauled to local agriculture land and the existing cells will be abandoned. The proposed Phase 2 treatment system improvements are expected to be complete by the fall of 2015. However, the sludge disposal and abandonment of the existing lagoons may occur in the summer of 2016.

The proposed Phase 2 treatment system improvements, including administration, engineering, and construction, are estimated to cost approximately \$5,023,000 and will be funded using grants and a low interest loan from US Department of Agriculture Rural Development (RD) program. Grants from RD are expected to be approximately \$1,009,000 and the long-term loan (40 years), is expected to be approximately \$3,993,000. The RD program requires interim financing until construction is complete. Therefore, for the short term (up to 3 years), the town will borrow up to \$3,993,000 at 1.25 % interest from the Water Pollution Control State Revolving Fund (WPCSRF) loan program in order to fund the project during construction. The town also expects to pay approximately \$21,000 in direct costs for the project.

Environmentally sensitive characteristics such as wetlands, floodplains, threatened or endangered species, and historical sites are not expected to be adversely impacted as a result of the proposed project. Additional environmental impacts related to land use, water quality, air quality, public health, energy, noise, growth, and sludge disposal were also assessed. No significant long-term environmental impacts were identified.

Under Montana law, (75-6-112, MCA), no person may construct, extend, or use a public sewage system until DEQ has reviewed and approved the plans and specifications for the project. Under the Montana Water Pollution Control State Revolving Fund Act, DEQ may loan money to municipalities for construction of public sewage systems.

The DEQ, Technical and Financial Assistance Bureau, has prepared this Environmental Assessment to satisfy the requirements of the Montana Environmental Policy Act (MEPA) and the National Environmental Policy Act (NEPA). The U.S. Department of Agriculture Rural Development has also reviewed this EA for purposes of NEPA compliance.

#### D. COMMENT PERIOD

Thirty (30) calendar days.



## II. PURPOSE OF AND NEED FOR ACTION

The Town of Culbertson, through a November 2011 Preliminary Engineering Report (PER) and a May 2014 PER Addendum for Treatment Alternatives, prepared by WWC Engineering, has identified the need to upgrade their wastewater treatment system. The original facultative lagoon treatment system was constructed in 1957 and included two primary cells. It has been upgraded several times, which included a third cell, constructed in 1977, and an additional evaporative / infiltration cell constructed in 1987, for use during the summer months. Sludge was measured in the two primary cells in 2009 and was found to be greater than two feet deep and therefore sludge is occupying a portion of the wastewater treatment capacity of the cells. Discharge to the infiltration cell has only occurred twice in the last 10 years. Because the other cells do not directly discharge, it is believed that approximately 6.9 million gallons (or 28% of total wastewater flow) of wastewater leaks from the existing treatment system every year, potentially leaking untreated wastewater to groundwater. A discharge to groundwater by the town's leaking lagoons is in violation of the Montana Water Quality Act because the town is not authorized to discharge to groundwater under a Montana Groundwater Pollution Control System (MGWPCS) permit. The town made interim improvements to the infiltration cell to provide an additional 20,000 gpd capacity in the Phase 1 project. The existing four cell wastewater treatment system is currently limited to a treatment capacity of about 126,000 gpd and will need major improvements to address the town's growth issues associated with the influx of people from oil exploration and production in the area. In addition, the improvements are needed to prevent the excessive leakage of inadequately treated wastewater to the groundwater and to meet future treatment capacity of 197,586 gpd.

## III. ALTERNATIVES INCLUDING THE PROPOSED ACTION AND COSTS

Due to the immediate growth from an influx of people from the oil exploration and production in the area and associated demand on the wastewater system for the town of Culbertson, the wastewater system requires an immediate upgrading; however, the improvements were split into two phases to allow time for the town to obtain a wastewater discharge permit. The Phase 1 improvements were completed in late 2013 and included work on the collection system and modifications to the existing infiltration cell. The Phase 2 improvements will include major improvements to the wastewater treatment facility, sludge disposal to agriculture land, and abandonment of the existing wastewater treatment lagoons. The new wastewater treatment system will be completed in late fall of 2015 but the sludge may be allowed to dry for one year and then in 2016 the sludge will be disposed of to agriculture lands and the lagoons abandoned.

- A. Four alternatives including the no action alternative for upgrading the wastewater treatment system were evaluated in the PERs. These included the following alternatives:

- Alternative 1 No Action
- Alternative 2 Aerated Lagoons
- Alternative 3 Facultative Lagoons
- Alternative 4 Mechanical Treatment System

**ALTERNATIVE 1 NO ACTION** – The no-action alternative would result in not taking any action to correct the problems with the current treatment system. The town would continue to operate the existing lagoons which are full of sludge,

appear to be leaking excessively, and lack operational controls. The existing lagoons are not designed to treat the expected wastewater flow or organic load due the recent and proposed growth in the Culbertson area, which would limit the growth in the area. Based on these concerns, the no-action alternative was not considered to be a viable option for the town.

**ALTERNATIVE 2 AERATED LAGOON** – This alternative would include constructing a three-cell aerated treatment system. The proposed treatment system would include two fully aerated cells and a final cell which would be partially aerated to allow for a quiescent zone near the outfall area. All cells would be a maximum of 15 feet deep and would be lined using a synthetic liner. A minimum detention time (under aeration) of 20 days would be provided before the treated wastewater would be disinfected and pumped approximately 4,744 feet to a new outfall in the Missouri River. A backup generator will be provided for the lift station and UV disinfection system. The new treatment cells would be constructed south of the infiltration cell constructed during the Phase 1 improvements to allow the existing lagoons to operate during construction. All improvements would be completed on property owned by the town or within right-of-ways owned by the town (see Figure 2). This alternative was determined to be a viable solution for the town of Culbertson and was given further consideration in the PER.

**ALTERNATIVE 3 FACULATIVE LAGOON** – This alternative would include constructing a new three-cell facultative pond treatment system. The treatment system considered would include two 7.9 acre primary treatment cells and one 10.1 acre final cell. All cells would be approximately six feet deep and would be lined using a synthetic liner. A minimum detention time of 40 days would be provided in the primary cells and a minimum detention time of 180 days would be provided overall (cells 1, 2, and 3). The two new primary cells would be constructed within the infiltration cell constructed during the Phase 1 improvements to allow the existing lagoons to operate during construction of the new treatment system. The final treatment cell would be constructed south of the two primary treatment cells. All improvements would be completed on property owned by the town or within right-of-ways owned by the town. Treated effluent (from the final cell) would be disinfected and pumped approximately 4,138 feet to a new outfall in the Missouri River. A backup generator will be provided for the lift station and UV disinfection system (see Figure 3). This alternative was determined to be a viable solution for the town of Culbertson and was given further consideration in the PER.

**ALTERNATIVE 4 MECHANICAL TREATMENT SYSTEM** – This alternative would include the construction of a mechanical treatment system. A multi-stage activated biological process (MSABP) wastewater treatment system was evaluated for this alternative. The MSABP is a proprietary system which proclaims to be simple to operate, requires less energy than other treatment systems, and functions without the need to waste biological sludge. With a MSABP treatment system, the only solids requiring to be disposed of are the screenings and grit, which are generated in the headworks operation and can be disposed at the landfill. A MSABP treatment system typically incorporates 8 to 12 metal aeration tanks which contain special fibers laden with microorganism carriers that constitute a food chain system. The treatment system, including tanks, piping and disinfection system, would be located above ground and within



a heated and ventilated building. All improvements would be completed on property owned by the town or within right-of-ways owned by the town. Treated effluent would be disinfected and pumped approximately 4,744 feet to a new outfall in the Missouri River (see Figure 4). This alternative was determined to be a viable solution and was given further consideration in the PER.

#### B. COST COMPARISON - PRESENT WORTH ANALYSIS

The present worth analysis is a means of comparing alternatives in present day dollars and can be used to determine the most cost-effective alternative(s). An alternative with low initial capital cost may not be the most cost efficient project if high monthly operation and maintenance costs occur over the life of the alternative. Salvage values were determined to be inconsequential between the alternative and therefore not presented. An interest rate of 6 % over the 20-year planning period was used in the analysis. Table 1 provides a summary of the present worth analysis of the feasible alternatives considered.

TABLE 1 - ECONOMIC EVALUATION OF TREATMENT SYSTEM ALTERNATIVES

Alternative Number (From Above)	Alternative	Total Capital Cost (million)	Annual O&M Cost	20 Year O&M Present Worth	Total Present Worth (million)
2	Aerated Lagoon	\$2.920	\$12,815	\$146,987	\$3.066
3	Facultative Lagoons	\$3.940	\$5,000	\$57,350	\$3.9970
4	Mechanical Treatment	\$3.843	\$17,828	\$204,486	\$4.047

The proposed Phase 2 treatment system improvements, including administration, engineering and construction, are estimated to cost approximately \$5,023,000 and will be funded using grants and a low interest loan from US Department of Agriculture Rural Development (RD) program. Grants from RD are expected to be approximately \$1,009,000 and the long-term loan (40 years), is expected to be approximately \$3,993,000. The RD program requires interim financing until construction is complete. Therefore, for the short term (up to 3 years), the town will borrow up to \$3,993,000 at 1.25 % interest from the Water Pollution Control State Revolving Fund (WPCSRF) loan program to fund the project during construction. The town also expects to pay approximately \$21,000 in direct costs for the project. The treatment system construction is expected to begin April 2015 and take up to 6 months to complete. Sludge disposal and lagoon abandonment may occur in 2016, after allowing time for the sludge to dry.

#### C. BASIS OF SELECTION OF PREFERRED ALTERNATIVE

Selection of the preferred alternative was based upon several criteria, both monetary and non-monetary. The ranking criteria considered are shown in Table 2.

TABLE 2 – RANKING CRITERIA FOR TREATMENT ALTERNATIVES

Ranking Criteria	Alternative 1	Alternative 2	Alternative 3
Technical Feasibility	+	+	0
Financial Feasibility	+	-	0
O&M Considerations	0	+	-

Public Health and Safety	+	0	+
Environmental Impacts	0	-	+
Expansion Capabilities	+	-	+
<b>TOTAL</b>	<b>4</b>	<b>-1</b>	<b>2</b>

Each alternative was assigned a plus (+) if the alternative had a comparative advantage over the other alternatives, a minus (-) if the alternative had a weaker advantage over the other alternatives, or a zero (0) if the alternative had a neutral advantage over the other alternatives. As noted in Table 2, Alternative 1 received pluses for technical feasibility, public health and safety, expandability and financial feasibility. Not only did it have the lowest capital cost, but also the lowest 20-year present worth. Alternative 1 (Aerated Lagoon) was rated the highest and is the recommended alternative.

The average monthly sewer rate will increase \$48.73 per month, resulting in a new average sewer rate of \$88.89 per month per user. The financial impact of this project on the system users is shown in Table 3. Based on the EPA guidance for project affordability, the proposed project will result in a monthly cost per household that is over 2.0 % of the monthly median household income, and therefore, may place a substantial financial burden on some of the households within the community.

<b>TABLE 3 PROJECT AFFORDABILITY</b>	
Existing Monthly wastewater service rate	\$40.16
Total monthly user cost <sup>1</sup>	\$88.89
Monthly median household income (mMHI) <sup>2</sup>	\$4,010.00
User rate as a percentage of mMHI	2.2 %

<sup>1</sup> December 14, 2012 Uniform Application for Montana Public Facility Projects

<sup>2</sup> Based on 2007-2011 census data 5-year estimate - (Culbertson)

#### IV. AFFECTED ENVIRONMENT

##### A. PLANNING AREA AND MAPS

The town boundary, the location of the town wastewater treatment system, and the Phase 1 Improvements are shown in Figure 1. Figure 2 shows the location of the proposed Phase 2 wastewater system improvements. Figure 3 and Figure 4 show the two alternative treatment systems considered, but were determined to not be viable. Figure 5 shows the general location of the town of Culbertson, which is located at the junction of US Highway 2 and State Route 16 near the Missouri River in the eastern portion of Roosevelt County. Figure 6 shows the numerous sites the town has available to dispose of the sludge from the existing lagoons. Figure 7 is a floodplain map of the Culbertson area and Figure 8 depicts the wetlands in the Culbertson area.

##### B. POPULATION AND FLOW PROJECTIONS

The March 2012 wastewater flow was measured by the town's engineer at



approximately 97,000 gallons per day (gpd). The new central lift station and force main have an average day capacity of 197,586 gpd (the 20 year design flow). The 2010 town population was 714, but recently as many as 324 new units, including single-family, multi-family hotels/motels, RV/mobile home parks and man camps have been discussed with town staff that will boost the population to over 1,000 people in the next few years. The new units are a result of the impact by recent oil development in eastern Montana and western North Dakota. Although growth is expected to be rapid in the next few years, the town is projecting a 1% annual growth rate for the life of the project (20 years) and a population of 1,976 in year 2030

#### C. NATURAL FEATURES

The Town of Culbertson is located in eastern Montana in what is typically called the eastern plains of Montana. Culbertson is located adjacent to the Missouri River on low hills eroded by numerous small drainages. The surface soils typically consist of sands, silts, and clays that were placed as alluvial and colluvial deposits, typical of alluvial fans, terraces, or glacial outwash. The elevation of the town varies from 1,916 feet to 1,950 feet. The depth to groundwater in the area varies from 3 to 110 feet. Utility work in town typically does not encounter groundwater, but the work near the wastewater treatment cells may.

Average annual precipitation in Culbertson is 13.49 inches. The wettest months are typically May, June, and July and the driest months are usually November through February. The average maximum temperature for July is 86 degrees and the average minimum temperature in January is -2 degrees.

### V. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

#### A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use/Prime Farmland – The treatment system lagoon improvements will occur on land previously disturbed at the treatment site. The outfall forcemain will be constructed on or adjacent to agriculture fields and in roads used for local access (to fields). All improvements, except near the Missouri River will be within areas previously disturbed for agriculture production. Any crop area disturbed to install the forcemain will be reclaimed with the same crop currently used in the field. Work near the river will be completed as required by permit authorized by the Army Corps of Engineers. The proposed improvements will not impact prime farmland or land use in general.
2. Floodplains – The proposed new treatment system and forcemain will be constructed within the 100-year floodplain of the Missouri River. The town will apply and receive a floodplain permit prior to any construction in the floodplain. All provisions of the permit will be followed during construction. The top elevation of the proposed cell berms, lift station, and backup generator will be at elevation 1,919.00 and above the 100-year flood elevation of 1,908-1,909. Figure 7 depicts the floodplain in the Culbertson area.

3. Wetlands – Although the area adjacent to the treatment cells have been mapped as wetlands in the National Wetlands Inventory, the Department of the Army Corps of Engineers (COE) determined that the wetlands are not jurisdictional wetlands and are not waters of the United States. Figure 8 depicts the mapped wetlands in the Culbertson area.

Figure 8 does not show mapped wetlands within the route of the forcemain (from the treatment site to the Missouri River). However, wetlands may exist near the river and will be delineated in the near future in accordance with the COE requirements; a wetland delineation report and mapping will be prepared in accordance with the COE Wetland Delineation Checklist. The alignment of the forcemain can be adjusted somewhat to avoid wetlands, and will be if possible. However, if wetlands cannot be avoided, a wetland mitigation plan will be included as part of the improvement project as required and approved by the COE. See Section X: Agencies Consulted of this report for a summary of their comments.

4. Cultural Resources and Historical Sites – No impacts to cultural resources are anticipated. The proposed improvements should not impact historic or cultural resources since all new facilities will be constructed within existing disturbed areas. The State Historic Preservation Office (SHPO) reviewed the proposed project and their comments are summarized in Section X of this report. See Section X: Agencies Consulted of this report for a summary of their comments.
5. Fish and Wildlife – The US Department of the Interior Fish and Wildlife Service (USFWS) determined that the following listed and candidate species may occur in the proposed project area.

Common Name	Status *	Project Area Counties	Montana Range/Habitat
Whooping Crane	LE	Roosevelt	Wetlands, migrant eastern Montana
Piping Plover	LT and CH	Roosevelt	Missouri River sandbars, alkali beaches, northeastern Montana, riverine and reservoir shoreline
Interior Least Tern	LE	Roosevelt	Yellowstone, Missouri River sandbars, beaches, Eastern Montana
Pallid Sturgeon	LE	Roosevelt	Bottom dwelling; Missouri, Yellowstone Rivers
Sprague's Pipit	C	Roosevelt	Grassland habitats with little or no shrub cover east of the Continental Divide
Red Knot	P	Roosevelt	Migrant; eastern Montana plains along shorelines

\*LE=listed as endangered, LT= listed threatened, C=candidate species for listing, P=propose, CH=critical habitat



Additionally, the USFWS also recommended the presence and activity status of bald and golden eagle nests within one mile of the project area be determined prior to construction and that the project construction be scheduled, to the maximum extent practicable, so as not to disrupt nesting raptors or other migratory birds during the breeding season. The USFWS recommend 0.5 mile buffer between occupied nests and construction activities during the breeding season for most raptor species. The USFWS recommended a biological assessment be completed to address their concerns and that coordination with the Montana Fish, Wildlife and Parks and the Montana Natural Heritage Program on these issues, and also sensitive plant resources. Based on the USFWS recommendation, a biological assessment (BA) was prepared by KC Harvey Environmental, LLC in July 2014. Their conclusion was that none of the six listed species were found in the project area at the time of the assessment. They recommended a determination survey be conducted prior to construction by a biologist and review the proposed project during construction for disturbed areas of nesting migratory birds. If occurrences are documented, appropriate mitigation measures will be taken to avoid and minimize impacts. The BA, with these recommended mitigation measures were submitted to the USFWS July 15, 2014 for their comments. The USFWS has yet to respond.

The Montana Department of Fish, Wildlife, and Parks were notified of this project and asked to reply with any concerns. They indicated that they did not have any comments regarding the proposed improvements.

The Montana Natural Heritage Program was contacted regarding the proposed project and identified several species of concern in the project area. These included the Great Blue Heron, Whooping Crane, Piping Plover, Least Tern, Pallid Sturgeon, Paddlefish, Shortnose Gar, Northern Redbelly Dace, Sturgeon Chub, Sicklefin Chub, Blue Sucker, Iowa Darter, Sauger, Eastern Red Bat, Townsend's Big-eared Bat, and Western Hognosed Snake. A determination survey will be conducted prior to construction by a biologist and a review of the proposed project during construction for disturbed areas for nesting and migratory birds. If occurrences are documented, appropriate mitigation measures will be taken to avoid and minimize impacts. The impacts to these species are expected to be minimal for a variety of reasons, including:

- Habitats (caves or riparian forests) are not present in the area for either bat species
- Most of the project site is within areas previously disturbed for agriculture use (field planting, cultivating and crop harvesting)
- Construction would occur during the summer when the animals are in their best condition and when ground animals have the most mobility
- The construction period is relatively short

See Section X: Agencies Consulted of this report for a summary of their comments.

6. Water Quality – Improvements to the wastewater treatment system will eliminate leakage from the existing lagoons which may be impacting surface water and groundwater, and therefore will have a positive effect

on these waters. The ultraviolet light disinfection system will be operated at all times the system is discharging. The disinfection system will be designed to meet surface water standards for *E. coli* bacteria.

The Missouri River is listed on the State's 2014 303(d) list of impaired water bodies. The water-use classification in this section of the river is B-3. Waters classified as B-3 are suitable for drinking, culinary and food processing purposes after conventional treatment; bathing swimming and recreation; growth and propagation of non-salmonid fishes and associated aquatic life, waterfowl and furbearers; and agriculture and industrial water supply. The reach of the river is listed on the 2012 303(d) List as fully supporting agricultural and drinking water, and partially supporting aquatic life beneficial uses. Primary contact recreation had not been assessed. Probable causes of the impairment are water temperature and other flow regime alterations and probable sources of the impairment are identified as dam or impoundment and impacts from hydrostructure flow regulation/modifications. A Total Maximum Daily Load (TMDL) is required, but has not been written and therefore specific limits, or loads, for pollutants have not been established associated with the TMDL.

Discharge from the proposed wastewater treatment facility to the Missouri River must meet surface water quality standards applicable for the stretch of the receiving stream (B-3). The discharge must be free of substances which will: settle to form objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines; create floating debris, scum, a visible oil film or globules of grease or other floating materials; produce odors, colors or other conditions as to which create a nuisance or render undesirable tastes to fish flesh or make fish inedible; create concentrations or combinations of materials which are toxic or harmful to human, animal, plant or aquatic life; and create conditions which produce undesirable aquatic life. No waste may be discharged that can reasonably be expected to violate any state water quality standards. The discharge may not result in a change of existing water quality (except for activities causing nonsignificant changes in existing water quality pursuant to ARM 17.30.670). Due to the large dilution ratio and effluent limits, the town was granted a 6,400 foot mixing zone (a limited area of a surface water body where initial dilution of a discharge takes place where water quality changes may occur and where certain water quality standards may be exceeded). The town's current water supply intake is located 12,800 feet downstream of the proposed outfall or 6,400 feet beyond the end of the mixing zone.

As part of issuing the new discharge permit to the town, DEQ evaluated the parameters typically present in municipal wastewater that may cause or contribute to a violation of water quality standards (see Statement of Basis). These include: conventional pollutants such as biological material (BOD<sub>5</sub>, TSS, pH, oil and grease, and pathogenic bacteria; non-conventional pollutants such as ammonia, nitrogen, and phosphorous; and toxic pollutants such as total residual chlorine, volatile organic carbon substances, and metals). The proposed aerated treatment facility is expected to treat wastewater to the standards (or less) set in the



discharge permit. These treatment standards provide sufficient limits for these parameters to insure there is no reasonable potential to cause, or contribute to an excursion above the state water quality standard. The town will utilize UV disinfection to eliminate pathogens in the effluent prior to discharging to the river and will meet the surface water standards for *E. coli* bacteria.

The proposed project is expected to improve groundwater quality in the area of the existing lagoons as well. The existing lagoon system lacks an adequate liner which has resulted in partially treated sewage leaking into the groundwater. The new aerated lagoons will be constructed with a new synthetic liner that will prevent the excessive leakage of untreated wastewater.

Impacts to the Missouri River associated with storm water runoff during construction of the outfall pipe will have to be mitigated with appropriate best management practices and carefully maintained during construction.

7. Air Quality – Short-term negative impacts on air quality are expected to occur during construction from heavy equipment in the form of dust and exhaust fumes. Proper construction practices will minimize this problem. Project specifications will require dust control.
8. Public Health – Public health will not be negatively affected by the proposed project. The improved wastewater treatment system will reduce the potential to pollute groundwater. The water will be treated to the limits as required by the town's discharge permit prior to disposal in the Missouri River. The proposed UV disinfection system will disinfect the treated effluent to a level safe for contact recreation in the receiving stream, and will decrease the potential of human exposure to pathogenic organisms in the wastewater effluent.
9. Energy – An increase in energy consumption will occur after the new treatment plant is constructed due to additional equipment. Energy consumption will be minimized as much as possible through the use of energy efficient equipment (pumps, blowers, lighting, etc). The consumption of energy resources directly associated with construction of the recommended improvements is unavoidable but will be a short-term commitment.
10. Noise – Short-term impacts from excessive noise levels may occur during the construction activities. The construction period will be limited to normal daytime hours to avoid early morning or late evening construction disturbances. A new emergency generator for backup to the lift station and UV disinfection system is proposed at the proposed treatment system, but would only operate during power outages and occasionally (30 minutes once a month) to insure it is operating correctly. The proposed treatment system is separated from the town by the railroad tracks and about one-half mile of industrial area and therefore should not disturb the town residents. No significant long-term impacts from noise should occur.

11. Sludge Disposal – All sludge (biosolids) will be removed from the existing cells and land applied in accordance with Federal 40 CFR 503 sludge disposal regulations, which will require a “503 permit” from EPA. The Part 503 regulations contain specific numerical limits and other requirements for heavy metals, pathogens, and vector attraction. Once the proposed treatment plant is operational, the existing lagoons will be taken off-line. Excess water in the lagoons may be processed through the new treatment plant and then the sludge will be allowed to dry. This may take one year, but no more than two years and then the sludge will be hauled from the site and disposed of to agriculture lands at agronomic rates. The town has verbal agreements with several property owners in the area that include 40 possible sites (14,000 acres) for sludge disposal (see Figure 6). The final sludge disposal plan must be submitted to the EPA and DEQ for review and approval.
12. Environmental Justice – Environmental Justice Executive Order 12898: The proposed project will not result in disproportionately high or adverse human health or environmental effects on minority or low income populations. All base sewer rates will be increased equally. No disproportionate effects among any portion of the community would be expected.
13. Growth – The 20-year design population is based on a growth rate of approximately 1% per year, after accounting for the immediate growth of approximately 500 people (2-5 years). The proposed improvements should be capable of serving the projected 2030 population of 1,976. The anticipated increase in population and development in the town due to the influx of people from the oil exploration in the area and will result in increased flows to the wastewater system. The proposed improvements to the treatment system will be a positive feature for the community and will allow the town to manage its growth in a proactive manner and promote urbanization within its service area.
14. Cumulative Effects – No significant secondary and/or cumulative impacts are anticipated with the proposed Phase 2 improvements. The proposed improvements will create additional treatment capacity over the existing treatment system which will help accommodate the community’s recent growth surge associated with oil field development in the region. Secondary impacts linked to housing, commercial development, solid waste, transportation, utilities, air quality, water utilization, and possible loss of agricultural and rural lands may occur. These secondary impacts are uncertain at this time and therefore cannot be directly addressed in the EA. However, these impacts will need to be managed and minimized as much as possible through town policies and proper community planning. There are several existing town, county and state regulations already in place (i.e., zoning regulations, comprehensive planning, subdivision laws, etc.) that control the density and development of property with regards to water supply, sewage disposal, solid waste disposal, transportation, and storm drainage systems.



B. UNAVOIDABLE ADVERSE IMPACTS

Short-term construction related impacts (i.e., noise, dust, traffic disruption, etc.) will occur, but should be minimized through proper construction management. Energy consumption during construction cannot be avoided.

VI. PUBLIC PARTICIPATION

Public participation for this project included a public meeting held on November 1, 2011. At the public meeting, the need for the project, the recommended alternative, and budget were discussed. No negative comments on the project were received from the public.

VII. AGENCY ACTION, APPLICABLE REGULATIONS AND PERMITTING AUTHORITIES

All proposed improvements will be designed to meet state standards in accordance with Circular DEQ-2, and will be constructed using standard construction methods. Best management practices will be implemented to minimize or eliminate pollutants during construction. No additional permits will be required from the State Revolving Fund (SRF) section of DEQ for this project after the review of the submitted plans and specifications. However, coverage under the storm water general discharge permit and groundwater dewatering discharge permit, are required from the DEQ Water Protection Bureau prior to the beginning of construction. A 124 Permit from the Department of Fish, Wildlife and Parks, a 404 Permit from the U.S. Corps of Engineers, and a 318 Authorization from the Department of Environment Quality will be required for any work that occurs in a streambed or (jurisdictional) wetlands, and will be obtained if necessary.

VIII. RECOMMENDATION FOR FURTHER ENVIRONMENTAL ANALYSIS

☐ EIS                      ☐ More Detailed EA                      ☒ No Further Analysis

Rationale for Recommendation: Through this EA, DEQ has verified that none of the adverse impacts of the proposed town of Culbertson wastewater improvement project are significant. Therefore, an environmental impact statement is not required. The environmental review was conducted in accordance with the Administrative Rules of Montana (ARM) 17.4.607, 17.4.608, 17.4.609, and 17.4.610. The EA is the appropriate level of analysis because none of the adverse effects of the impacts are significant.

IX. REFERENCE DOCUMENTS

The following documents have been utilized in the environmental review of this project and are considered to be part of the project file:

1. PER Addendum for Town of Culbertson Wastewater System, May 2014, prepared by WWC Engineering
2. Preliminary Engineering Report for Town of Culbertson Wastewater Improvement Project, November 2011, prepared by WWC Engineering
3. PER Amendment for Town of Culbertson Wastewater Improvement Project, November 30, 2012, prepared by WWC Engineering

4. PER Amendment #2 for Town of Culbertson Wastewater System, March 19, 2013, prepared by WWC Engineering
5. Uniform Application Form for Montana Public Facility Projects for the Town of Culbertson, December 14, 2012
6. Design Report for the Town of Culbertson Wastewater Facility Rehabilitation, November 2012, prepared by WWC Engineering
7. Biological Assessment for Culbertson Wastewater Treatment Facility Rehabilitation, July 2014, prepared by KC Harvey Environmental, LLC.
8. Department of Environmental Quality Montana Pollutant Discharge Elimination System (MPDES), Statement of Basis, Town of Culbertson – Permit No. MT0031798, March 2014, prepared by MDEQ

#### X. AGENCIES CONSULTED

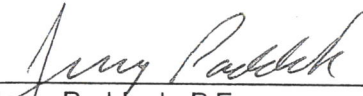
The following agencies have been contacted in regard to the proposed construction of this project:

1. The U.S. Fish and Wildlife Service (Service) reviewed the proposed project and recommended a biological assessment be completed of the site due to the possibility of several threatened or endangered species and designated critical habitat in the area. They also recommended that the presence and activity status of bald and golden eagle nests within one-mile of the project area be determined prior to construction, and that the construction activities be scheduled so as not to disrupt nesting raptors or other migratory birds during the breeding season. The Service also recommended a 0.5-mile buffer between occupied nests and construction activities during the breeding season for most raptor species, and if work is proposed to take place during the breeding season or at other time which may result in the "take" of migratory birds, their eggs, or active nests, the Service recommends taking all practicable measures to avoid and minimize take, such as maintaining adequate buffers to protect the birds until the young have fledged. The Service further recommended that if field surveys for nesting birds are conducted with the intent of avoiding the "take" during construction, any documentation of the presence of migratory birds, eggs, and active nests, along with information regarding the qualifications of the biologist(s) performing the surveys, and any avoidance measures implemented at the project site be maintained.
2. The Montana Historical Society's State Historic Preservation Office (SHPO) reviewed the proposed project. According to their records, there have been no previously recorded sites within the designated search locales. However, should structures need to be altered or cultural materials be inadvertently discovered during the project, SHPO must be contacted and the site investigated.
3. The U.S. Department of the Army Corps of Engineers (USCOE) reviewed the proposed project. They indicated if any work is proposed below the ordinary high water mark of stream channels, lakes, or wetlands adjacent to these waters that a Section 404 permit would apply and authorization from USCOE would be needed. They stated the project area should be evaluated for the presence of wetlands or waters of the U.S and if the site does contain jurisdictional waters of the United States (including wetlands), a Section 404 permit will be required for this project.



4. The Montana Department of Fish, Wildlife and Parks indicated that they did not have any comments regarding the proposed improvements.
5. The Montana Natural Heritage Program was contacted regarding the proposed project and found no plant species of concern, but did identify several species of concern in the project area. These included the Great Blue Heron, Whooping Crane, Piping Plover, Least Tern, Pallid Sturgeon, Paddlefish, Shortnose Gar, Northern Redbelly Dace, Sturgeon Chub, Sicklefin Chub, Blue Sucker, Iowa Darter, Sauger, Eastern Red Bat, Townsend's Big-eared Bat, and Western Hognosed Snake. The impacts to these animal species are expected to be minimal (see Section V.4).
6. The Montana Department of Environmental Quality indicated that a stormwater discharge permit and construction dewatering permit may be applicable to the project.

EA Prepared by:

  
\_\_\_\_\_  
Jerry Paddock, P.E.

Date

7/24/14

EA Reviewed by:

  
\_\_\_\_\_  
Mike Abrahamson, P.E.

Date

7/24/14

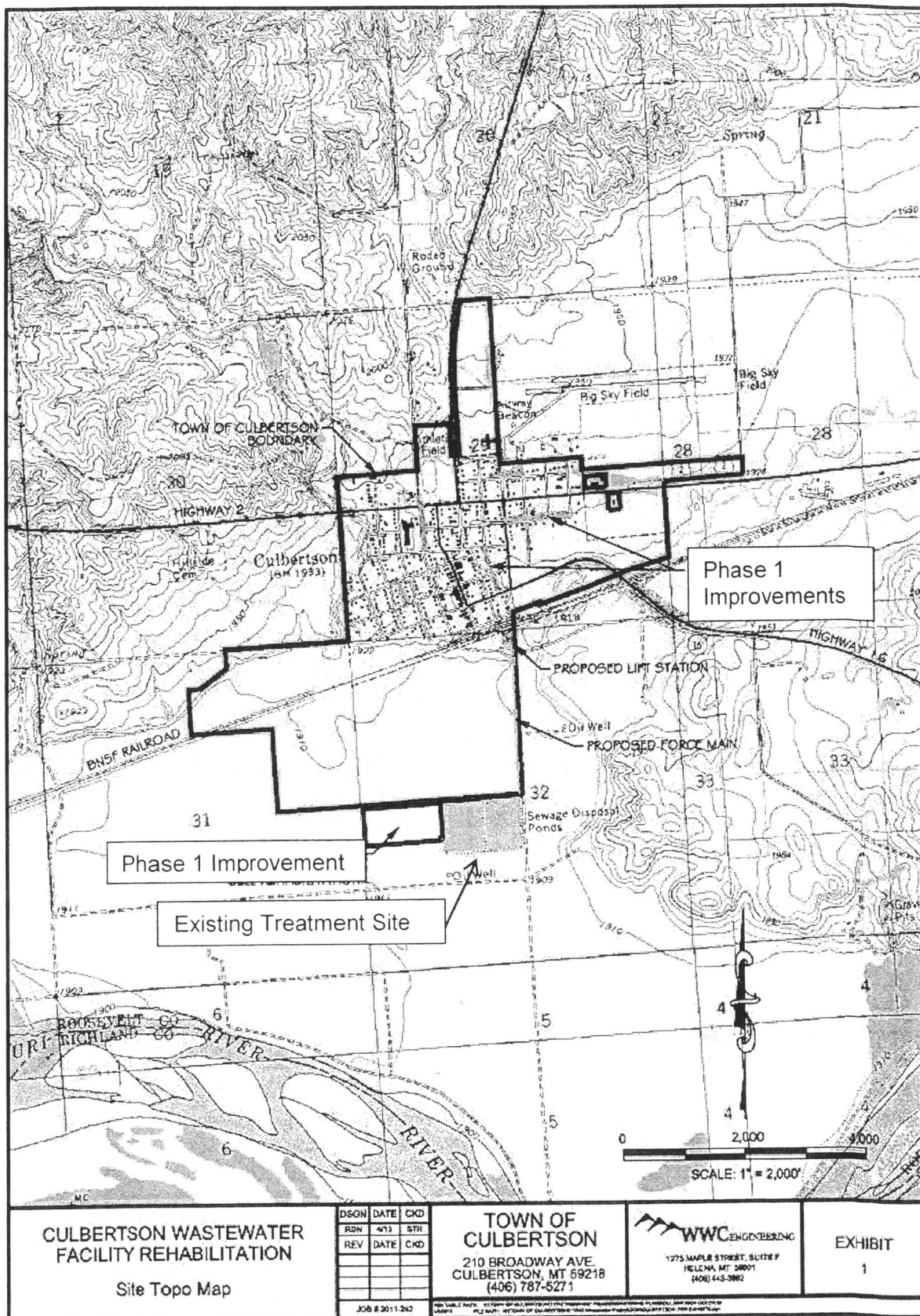


FIGURE 1 - CULBERTSON  
BOUNDARY AND WASTEWATER  
TREATMENT SITE















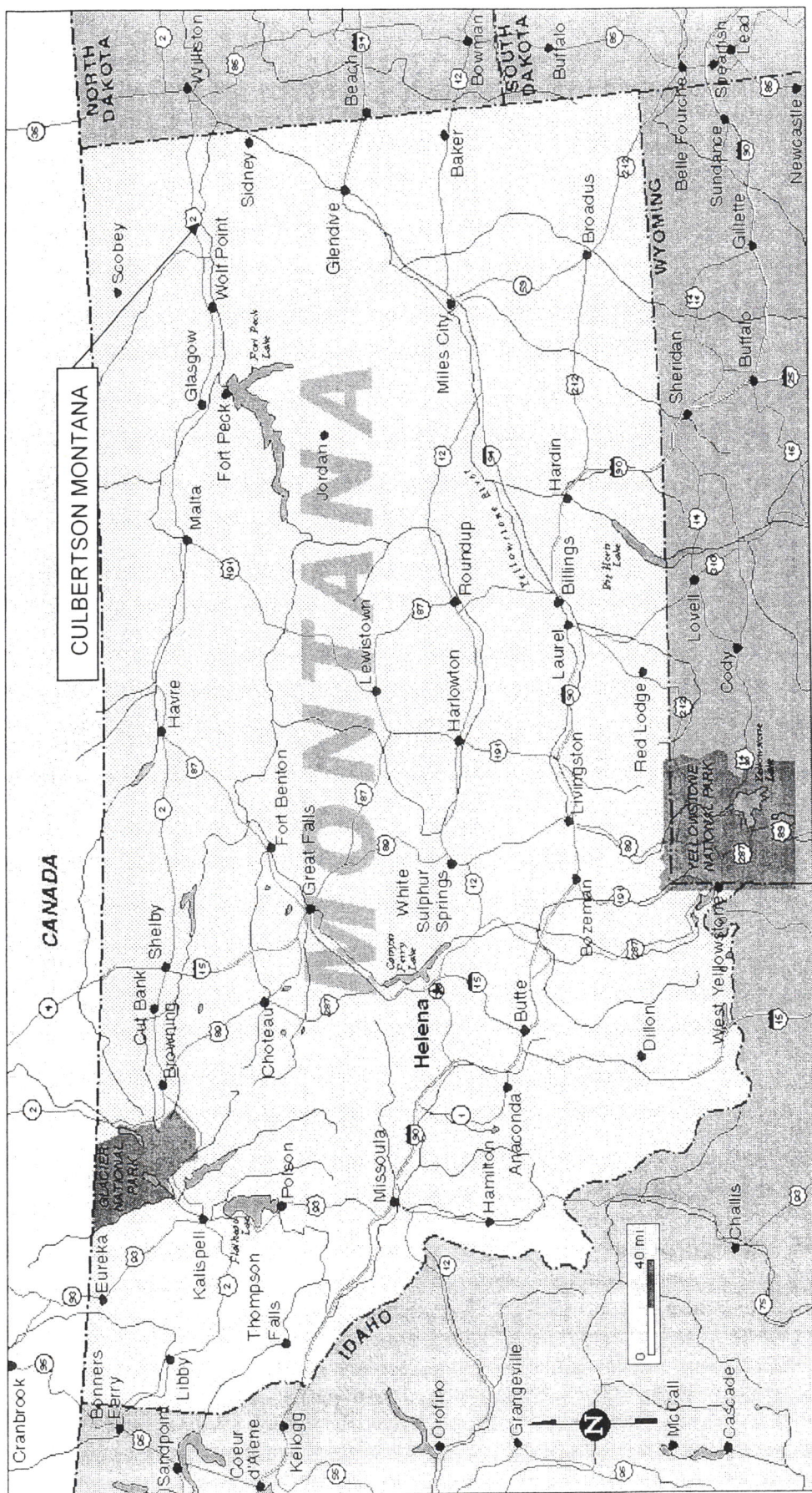
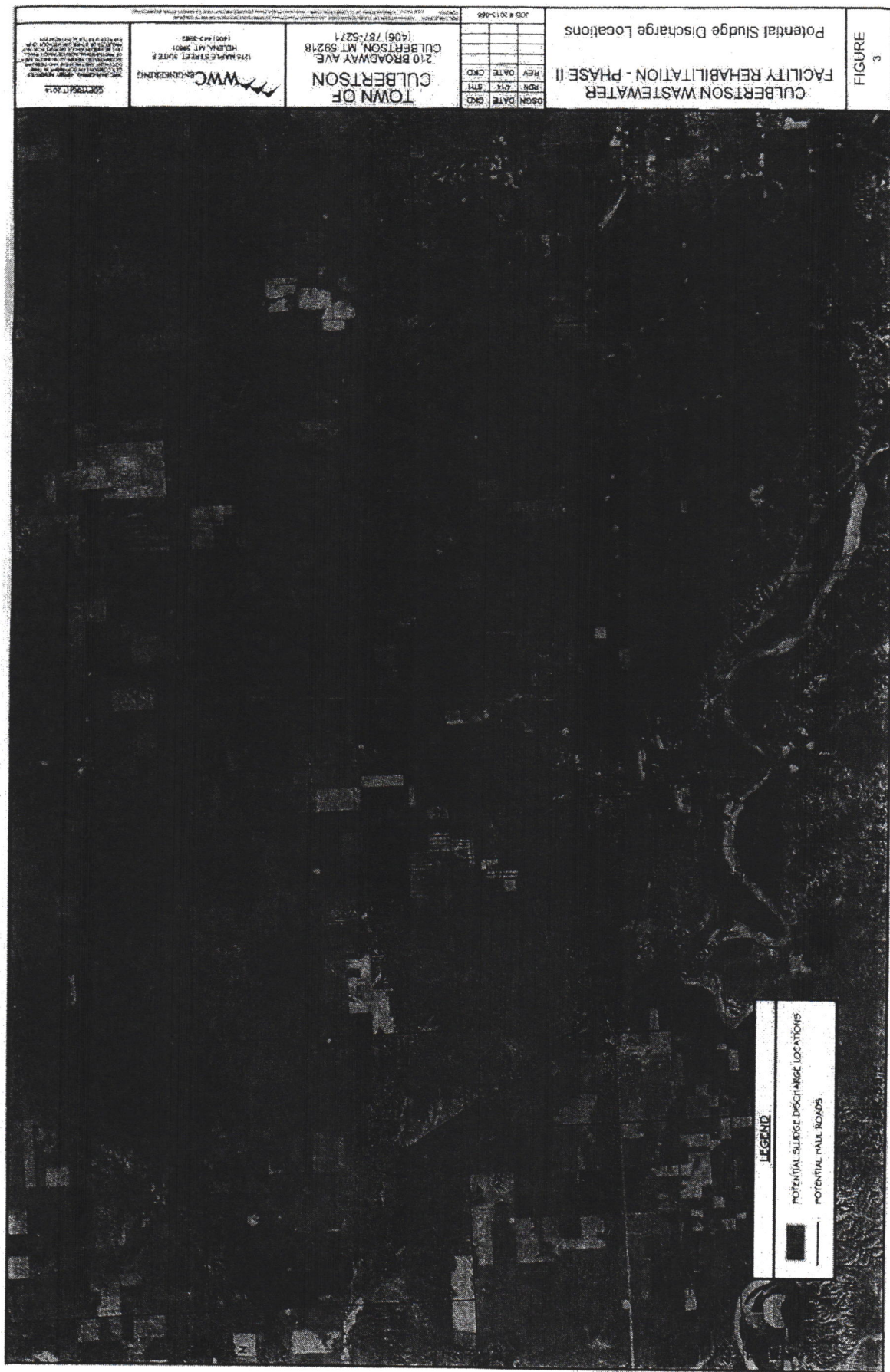


FIGURE 5  
LOCATION MAP





**FIGURE 6 - PROPOSED  
SLUDGE DISPOSAL SITES  
AND HAUL ROUTES**





FIGURE 7  
FLOODPLAIN MAP





FIGURE 8  
WETLAND MAP